

AMENDMENTS TO THE CLAIMS

1. (Original) A method of metering the flow of a hydraulic fluid along at least one friction surface of at least one lamination of a package of neighboring laminations in an engageable and disengageable bypass clutch forming part of a hydrokinetic torque converter wherein a housing confines a pump, a stator and a turbine in addition to the bypass clutch, comprising at least one of a plurality of undertakings including: a first undertaking comprising the steps of supplying hydraulic fluid into the housing and interfering with the flow of fluid between the turbine and an inner side of the housing to thus increase the rate of fluid flow along the at least one lamination; and a second undertaking including the step of reducing resistance to the flow of fluid through the bypass clutch to thus increase the rate of fluid flow along the at least one friction surface of the at least one lamination.
2. (Original) The method of claim 1, further comprising the steps of hydrostatically engaging and disengaging the bypass clutch, including subjecting the bypass clutch to the action of a hydrostatic fluid stream.
3. (Original) The method of claim 1, wherein said step of supplying hydraulic fluid includes conveying a stream of hydraulic fluid along a first path extending through the pump, turbine and stator, and thereafter along a second path between an internal surface of the housing and an external surface of the turbine.
4. (Original) The method of claim 1, wherein said step of supplying hydraulic fluid includes conveying a stream of hydraulic fluid

along a first path extending between an internal surface of the housing and an external surface of the turbine and thereafter along a second path extending through the pump, turbine and stator.

5. (Original) The method of claim 1, further comprising the step of hydrostatically engaging and disengaging the bypass clutch, said resistance reducing step including establishing a path for the flow of fluid between a biasing member and an adjacent lamination in the disengaged condition of the bypass clutch.
6. (Original) The method of claim 1, further comprising the step of regulating at least one of a plurality of parameters of the hydraulic fluid, said parameters including the pressure and the temperature of the fluid.
7. (Original) The method of claim 1, wherein said resistance reducing step includes reducing the pressure of hydraulic fluid by between about 0.1 and 3 bar.
8. (Original) The method of claim 7, where the pressure of hydraulic fluid is reduced between about 0.2 and 1 bar.
9. (Original) The method of claim 1, wherein said fluid supplying step includes conveying the fluid in the housing at a rate of between about 0.1 liter and 10 liters per minute.
10. (Original) The method of claim 9, wherein said rate is between about 0.2 and 1 liter per minute.
11. (Original) The method of claim 1, further comprising the step of hydrostatically engaging and disengaging the bypass clutch, including conveying through the bypass clutch a discrete fluid

stream at a rate and at a pressure such that the clutch is operated with slip.

12. (Original) The method of claim 11, wherein the discrete fluid stream is a pulsating stream.
13. (Original) The method of claim 11, wherein said operation with slip includes minimizing torsional vibrations in a power train embodying the torque converter.
14. (Original) The method of claim 1, wherein at least one of said undertakings includes the step of cooling the bypass clutch.
15. (Original) The method of claim 1, wherein at least one of said undertakings includes transmitting torque from a prime mover to an automatic transmission in the power train of a motor vehicle.
16. (Original) The method of claim 1, wherein at least one of said undertakings includes transmitting torque from a prime mover to a continuously variable transmission in the power train of a motor vehicle.
17. (Original) A hydrokinetic torque converter, comprising: a torque-transmitting housing rotatable about a predetermined axis; a rotary turbine in said housing; a bypass clutch disposed in said housing and being engageable to transmit torque from said housing to an output member of said turbine, said housing and said turbine defining a first path for the flow of a hydraulic fluid to said bypass clutch, and at least one second path; and means for opposing the flow of fluid along said second path.

18. (Original) The torque converter of claim 17, wherein said first path is defined at least in part by at least one first channel and said at least one second path is defined by at least one second channel.
19. (Original) The torque converter of claim 17, further comprising a turbine damper in said first path.
20. (Original) The torque converter of claim 17, wherein said flow opposing means includes a plurality of closely adjacent neighboring substantially disc-shaped elements in said second path.
21. (Original) The torque converter of claim 20, further comprising means for connecting said substantially disc-shaped elements to each other, including at least one rivet having a head at least partially recessed into one of said disc-shaped elements.
22. (Original) The torque converter of claim 20, further comprising means for connecting said substantially disc-shaped elements to each other, including at least one welded seam which is at least partially recessed into one of said disc-shaped elements.
23. (Original) The torque converter of claim 20, wherein at least one of said substantially disc-shaped elements is a stamping having at least one projection extending away from a neighboring substantially disc-shaped element of said plurality of elements.
24. (Original) The torque converter of claim 23, wherein said at least one projection is one of a burr and a bent portion of said at least one substantially disc-shaped element.

25. (Original) The torque converter of claim 20, wherein at least one of said substantially disc-shaped elements is a cutting having at least one projection extending away from a neighboring substantially disc-shaped element of said plurality of elements.
26. (Original) The torque converter of claim 20, wherein at least one of said substantially disc-shaped elements has a surface confronting another of said substantially disc-shaped elements and having a secondary finish.
27. (Original) The torque converter of claim 26, wherein said secondary finish includes treatment in at least one of machines including grinding and turning machines.
28. (Original) The torque converter of claim 20, wherein said substantially disc-shaped elements include first and second elements spaced apart from each other by clearances having a width of between about 0.1 and 2 mm as seen in the direction of said axis, said clearances having a length of between about 1 and 30 mm as seen radially of said axis.
29. (Original) The torque converter of claim 28, wherein said width is between about 0.5 and 1 mm and said length is between about 1 and 10 mm.
30. (Original) The torque converter of claim 20, wherein said bypass clutch comprises a plurality of laminations, at least one of said substantially disc-shaped elements forming part of one of said laminations.
31. (Original) The torque converter of claim 20, further comprising a turbine damper provided in said housing and having at least one

input element, one of said substantially disc-shaped elements forming part of said at least one input element.

32. (Original) The torque converter of claim 20, further comprising a turbine damper in said housing, said damper including a flange and one of said substantially disc-shaped elements forming part of said flange.
33. (Original) The torque converter of claim 20, wherein said turbine includes a hub and one of said substantially disc-shaped elements forms part of said hub.
34. (Original) The torque converter of claim 17, wherein said flow opposing means comprises at least one sealing ring.
35. (Original) The torque converter of claim 17, wherein said flow opposing means comprises a diaphragm spring.
36. (Original) The torque converter of claim 17, wherein said flow opposing means comprises at least one diaphragm.
37. (Original) The torque converter of claim 36, wherein said bypass clutch comprises a package of neighboring laminations, a first carrier for a first set of said package of laminations, and a second carrier arranged to support a second set of said package of laminations, said second carrier being disposed between said first carrier and said axis and said at least one diaphragm being borne by said second carrier and engaging a safety ring on said first carrier.
38. (Original) The torque converter of claim 36, wherein said bypass clutch comprises a package of neighboring laminations, a first

carrier for a first set of said package of laminations, and a second carrier arranged to support a second set of laminations which alternate with the laminations of said first set, said second carrier being disposed between said first carrier and said axis and said diaphragm being borne by said second carrier and abutting one of a pressure plate and one of said laminations.

39. (Original) The torque converter of claim 36, further comprising a damper for said turbine, said damper comprising an input element and said bypass clutch comprising a package of laminations and at least one carrier for said laminations, said diaphragm being riveted to one of said input element and said at least one carrier.
40. (Original) The torque converter of claim 17, wherein said bypass clutch comprises a package of laminations and a carrier for said laminations, said means for opposing including an annular member contacting said carrier and one of said laminations.
41. (Original) The torque converter of claim 40, wherein said annular member is arranged to be recessed into said carrier.
42. (Original) The torque converter of claim 17, further comprising a damper for said turbine, said damper having an input element and a flange and said opposing means comprising one of a sealing ring and a diaphragm spring and being arranged to operate between said input element and said flange.
43. (Original) The torque converter of claim 17, further comprising a turbine damper having a flange, said turbine having a hub and said means for opposing including one of a sealing ring and a diaphragm spring disposed between said flange and said hub.

44. (Original) The torque converter of claim 17, further comprising a turbine damper having a flange, said turbine having a hub-shaped support and said opposing means comprising one of a sealing ring and a diaphragm spring disposed between said flange and said support.
45. (Original) The torque converter of claim 17, wherein said bypass clutch comprises a package of laminations, a first carrier for said laminations and a second carrier for said laminations, said second carrier being disposed between said first carrier and said axis and one of said laminations having at least one axial inlet opening for hydraulic fluid.
46. (Original) The torque converter of claim 17, wherein said bypass clutch comprises a package of annular laminations, a first carrier for said laminations- and a second carrier for said laminations, said second carrier being disposed between said first carrier and said axis and at least one of said laminations having a toothed marginal portion adjacent one of said carriers and defining with said one carrier a plurality of passages for the flow of hydraulic fluid therethrough.
47. (Original) A power train for use in a motor vehicle, comprising: a prime mover; a transmission; and a hydrokinetic torque converter between said prime mover and said transmission and comprising a torque-transmitting housing rotatable about a predetermined axis, a rotary turbine in said housing, a bypass clutch disposed in said housing and being engageable to transmit torque from said housing to an output member of said turbine, said housing and said turbine defining a first path for the flow of a hydraulic fluid

to said bypass clutch and at least one second path, and means for opposing the flow of fluid along said second path.

48. (New) A method of metering the flow of a hydraulic fluid along at least one friction surface of at least one lamination along of a package of neighboring laminations in an engageable and disengageable bypass clutch forming part of a hydrokinetic torque converter, wherein a housing confines a pump, a stator and a turbine in addition to the bypass clutch, comprising the steps of:
- supplying the hydraulic fluid into the housing;
 - interfering with the flow of the hydraulic fluid between the turbine and an inner side of the housing to thus increase the rate of fluid flow along the at least one lamination; and
 - interfering with the flow of the hydraulic fluid through the bypass clutch and along a radially inner portion of the friction surface of at least one lamination.